

**Remarks**

Applicants respectfully requests reconsideration of the present application in view of the above amendments and following remarks. Claims 1, 7 and 13 have been amended. No claims have been added or cancelled. Therefore, claims 1-9 and 13 are pending in the present application.

Claims 1-9 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,688,070 to Morelli et al. ("the Morelli reference"). Applicants respectfully traverse this rejection.

Amended claim 1 is directed to an apparatus including a cylindrical shaft, a hub, and at least one tapered locking key. The cylindrical shaft has at least one longitudinal keyway formed in an outer surface thereof. The at least one keyway has a bottom portion and at least two side walls. The hub has a cylindrical axial bore defining a wall in the hub and is disposable on the shaft to define a maximum distance from the keyway bottom portion to the bore wall. The at least one tapered locking key is adapted for insertion into the at least one keyway between the keyway bottom and the bore wall. In addition, the key has a pre-insertion maximum height greater than the maximum distance such that at least one of the key and the hub is deformed by the insertion whereby the hub is rotationally and axially secured onto the shaft.

By providing the apparatus as provided above, numerous advantages are realized. For instance, the present invention allows for the independent calibration of a throttle shaft and sensor output coupled to the hub prior to fixing the rotary

relationship between the shaft and the hub. *See Specification*, pg. 6, lines 16-23; pg. 7, lines 1-4.

It is well established that anticipation requires that each element of the claim be disclosed in a single prior art reference. *See W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983). Applicants submit the Morelli reference does not teach or suggest an apparatus having a hub with a cylindrical axial bore as recited in amended claim 1. Instead, as best seen in FIG. 5 of the Morelli reference, a sleeve (164) has a keyway (170) defined in its inner periphery that is adapted to be aligned with a keyway (148) formed in a drive shaft (144) to accommodate key (171). *See* Col. 3, lines 66-67; Col. 4, lines 1, 18-22, 26-28. Thus, the inner periphery of the sleeve (164) is not cylindrical and does not allow for the independent calibration of the shaft (144) and sleeve (164) since the keyways (148, 170) must always be aligned in order to allow the key (171) to fixedly couple the sleeve (164) to the shaft (144). The position of the shaft (144) relative to the sleeve (164) may not be varied, which is one of the problems that the present invention intends to solve. *See Specification*, pg. 2, lines 3-7. Since all of the features present in amended claim 1 are not disclosed by the Morelli reference, Applicants respectfully request that the rejection of claim 1 be withdrawn.

As claims 2-6 depend from claim 1, Applicants request that the rejection of these claims also be withdrawn for at least the same reason set forth with respect to claim 1.

Amended claim 7 is directed to a method for securing a hub having a cylindrical axial bore defined by a bore wall onto a cylindrical shaft. The method

includes providing at least one longitudinal keyway in the shaft, wherein at least one keyway has a bottom portion and at least two side walls, disposing the cylindrical axial bore of the hub onto the shaft to define a maximum distance between the keyway bottom portion and the bore wall, providing at least one longitudinally tapered wedging means, and inserting the at least one wedging means into the at least one keyway between the keyway bottom portion and the bore wall.

Applicants submit that the Morelli reference does not teach or suggest a method that includes disposing a cylindrical axial bore of a hub onto a shaft as recited in amended claim 7. As stated above, the inner periphery of the sleeve (164) in the Morelli reference is not cylindrical because it has a keyway (170) defined therein. Thus, Applicants respectfully request that the rejection of claim 7 be withdrawn. As claims 8 and 9 depend from claim 7, Applicants request that the rejection of these claims also be withdrawn for at least the same reason set forth with respect to claim 7.

Claims 1, 2, 6-8 and 13 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. GB 2 066 927 to Moldex Inc. ("the Moldex reference"). Applicants respectfully traverse this rejection.

The Moldex reference does not teach or suggest an apparatus having a cylindrical shaft having at least one longitudinal keyway having a bottom portion and at least two side walls as recited in amended claim 1. As best seen in FIG. 1 of the Moldex reference, a shaft (2) merely includes a flat surface (4) with no opposing side walls defined therein. Instead, a slot (24) formed in a hub (8) holds the key (16) in position. Because the flat surface (4) must be aligned with the slot (24) when

coupling the hub (8) to the shaft (2), the relative position of the shaft (2) and the hub (8) may not be independently calibrated, which is one of the problems that the present invention intends to solve. For at least this reason, claim 1 is not anticipated by the Moldex reference.

As claims 2 and 6 depend from claim 1, Applicants request that the rejection of these claims also be withdrawn for at least the same reason set forth with respect to claim 1.

Moreover, for at least the same reasons set forth with respect to claim 1, the Moldex reference does not teach or suggest a method that includes providing at least one longitudinal keyway in a shaft, wherein the keyway includes a bottom portion and at least two sidewalls as recited in amended claim 7. Therefore, Applicants request that the rejection of claim 7, and its dependent claim 8, be withdrawn.

Claim 13 is directed to an apparatus for securing a hub to a shaft including a cylindrical shaft having an outer surface, a hub and at least one tapered locking key. The hub has an axial bore that defines a wall in the hub and has at least one longitudinal keyway formed in an inner surface thereof. The at least one keyway has a bottom portion. The hub is disposable on the shaft to define a maximum distance from the keyway bottom portion to the outer surface. Further, the at least one longitudinally tapered locking key is adapted for insertion into the at least one keyway between the keyway bottom and the shaft surface. The at least one key has a pre-insertion maximum height greater than the maximum distance such that at

least one of the key and the shaft is deformed by the insertion, whereby the hub is rotationally and axially secured onto the shaft.

The Moldex reference does not teach or suggest an apparatus having a cylindrical shaft as recited in amended claim 13. As stated above, the outer surface (12) of the shaft (2) in the Moldex reference has a flat surface 4 formed therein. Therefore, the device in the Moldex reference fails to teach every limitation included in claim 13 and Applicants request that the rejection of this claim be withdrawn.

Claim 13 has been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 1,560,399 to Preston, Sr. ("the Preston reference").

The Preston reference does not teach or suggest an apparatus having at least one longitudinally tapered locking key as recited in amended claim 13. In contrast, the key (10) in the Preston reference appears to have a uniform height along its longitudinal axis as best seen in FIG. 4. Since the Preston reference fails to teach or suggest each limitation in claim 13, Applicants respectfully request that the rejection of claim 13 be withdrawn.

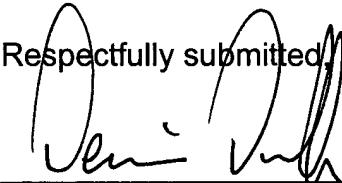
### Conclusion

In light of the foregoing, Applicants submit that claims 1-9 and 13 are in condition for allowance and such allowance is respectfully requested. Should the Examiner feel that any unresolved issues remain in this case, the undersigned may be contacted at the telephone number listed below to arrange for an issue resolving conference.

Applicants do not believe that any fee is due at this time, however, the  
Commissioner is hereby authorized to charge any fee that may have been  
overlooked to Deposit Account No. 10-0223.

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Respectfully submitted,

  
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